Emergency Information for Farmers, Food Processors, and Distributors

Important information enclosed. Read this booklet and keep it in a handy place for reference in an emergency.

1-800-852-3792
www.nhoem.state.nh.us

Contents

Introduction

This booklet tells New Hampshire farmers, food processors and food distributors within 50 miles of Seabrook Station or the Vermont Yankee Nuclear Power Plant what to do in case of an emergency at the plant.

Emergency plans have been written to protect the public in case of an accident at Seabrook Station or Vermont Yankee. These plans could also be used in many other kinds of emergencies. For instance, they could be used in case of a flood, fire, hurricane or toxic chemical spill. Similar plans have been used in other places during such emergencies.

In an emergency, farmers, food processors and food distributors would get help from local, state and federal officials. The New Hampshire Department of Agriculture, Markets & Food, County Agricultural Extension Service and New Hampshire Office of Community and Public Health, as well as the New Hampshire Office of Emergency Management, would recommend actions you should take to protect yourself, your livestock and crops.

Important Telephone Numbers

New Hampshire farmers, food processors and food distributors who have questions after reading this brochure, or who need help during an emergency, should call the following numbers:

Non-Emergency

N.H. Department of Agriculture Food & Markets (603) 271-2404

Rockingham County Cooperative Extension Service (603) 679-5616

Cheshire County Cooperative Extension Service (603) 352-4550

University of New Hampshire Department of Animal and Nutritional Sciences (603) 862-2130

N.H. Office of Emergency Management 1(800) 852-3792 (603) 271-2231

N.H. Office of Community and Public Health (603) 271-4501

Emergency

N.H. Department of Agriculture, Markets & Food 1(800) 852-3792

Rockingham County Cooperative Extension Service (603) 679-5616

Cheshire County Cooperative Extension Service (603) 352-4550

University of New Hampshire Department of Animal and Nutritional Sciences (603) 862-2130

N.H. Office of Emergency Management (603) 443-1419 (Seabrook Station)

1(800) 852-3792 (Vermont Yankee)

N.H. Office of Community and Public Health 1(800) 852-3792

NHOEM Website: www.nhoem.state.nh.us

Summary of Emergency Instructions

This short summary of possible actions for farmers during an emergency in explained in greater detail starting on page 7 of this brochure.

- Shelter animals by housing them in a building.
- Place animals on stored feed and water.
- Register with state officials if you need to re-enter a restricted area.
- Call the emergency telephone numbers listed on pages 4-5 for any questions you might have.

Be Prepared

Here are some things you can do now to be prepared for an emergency:

- Thoroughly read and understand this brochure. Keep it in a safe place.
- Decide where to shelter your animals.
- Decide which animals would be most important to shelter.
- Decide how to give livestock and poultry stored feed and water.
- Food processors and distributors should plan how to store or process food and milk if selling must be delayed for a few days.

How You Would Be Told About an Emergency

In an emergency, sirens in the area 10 miles around Seabrook Station or Vermont Yankee would make a steady three-to-five minute sound. *If you hear such a siren, turn at once to an Emergency Alert System (EAS) radio station.* You would be told what to do.

New Hampshire EAS stations for the Seabrook Station area include:

WOKQ FM 97.5

New Hampshire EAS stations for the Vermont Yankee area include:

WKNE FM 103.7

Farmers, food processors and food distributors within 50 miles of either plant would also be notified through the local media and by contacts from the New Hampshire Office of Emergency Management, the state Department of Agriculture, Markets & Food or their County Extension Service. You would be told exactly what you should do.

Actions During an Emergency

might be asked to take some of the following steps. You would not necessarily have to do any or all of these things. In case of an emergency, follow detailed instructions provided over the EAS, by state officials, or through the local media.

Personal Safety

The state Department of Agriculture, Markets & Food and Office of Community and Public Health would monitor the area. They would tell you when it was safe to work your farm or start processing or selling food again. There could be a period of time when it would not be safe to work the land. Or, you could be told to take special precautions, such as the following:

- Wash hands thoroughly before eating.
- Wear protective clothing (such as that worn when using pesticides) when working outdoors.
- Remove outer clothing before going inside.
- Wear a dust filter over your nose and mouth when working dry land or harvesting corn.

Sheltering Animals

To shelter your animals, house them in a building. In some emergencies, all animals should be sheltered, including cows, swine, sheep and poultry. You would do this for the same reason you cover an open dish of food. The covering keeps dust – or radioactive particles – from falling on what is inside.

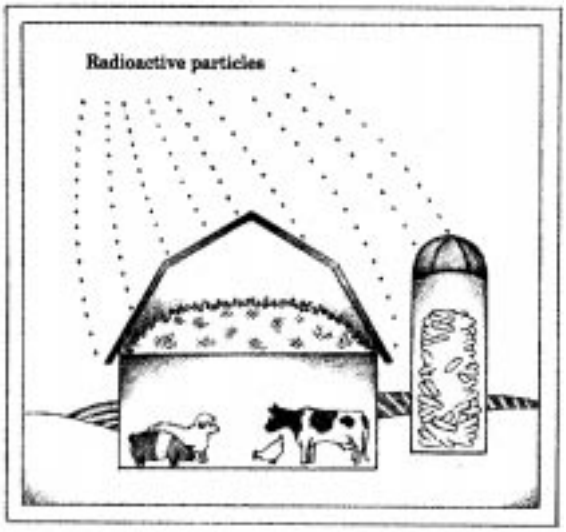
The following are all possible livestock shelters:

- Barns
- Milking parlors
- Machine sheds
- Garages
- Corn cribs
- Poultry buildings
- Swine buildings

Masonry or concrete buildings usually protect animals best. For example, a concrete block hoghouse give more protection than a frame barn. An open building, like a pole barn, gives less protection. Woodlots, underpasses, or bridges provide some protection. Even penning animals together helps, because they shield each other.

If you are told to shelter your animals, give ***dairy cows*** the most protected areas. It may be hard to shelter ***beef cattle*** and other ***range animals***; give priority to the most valuable stock.

The buildings in which most ***swine*** are raised would provide some protection. Once again, put the best stock in larger, heavier buildings



Poultry can stand higher radiation doses than most other animals. Confined housing usually used for poultry would help protect them; lowering sidewall curtains and panels would also help.

Ventilation is needed to keep sheltered livestock healthy, but radioactive material could come into buildings through the ventilation systems. Therefore, limit outside air as much as you can. Do not use fans for ventilation unless you must for animal safety. If you must use them, set them on low speed so they will bring in less air. Use filters if possible. Ventilation is especially important for hogs; do not overcrowd them.

Giving Animals Protected Feed and Water
If necessary, you would be told to put your animals, especially dairy cows, on protected or stored feed and water. This is food that has not been exposed to radioactive contamination because it has been covered.

Types of protected feed include:

- Grain stored in bins
- Hay in barns
- Silage in covered silos
- Round hay bales with outer layers discarded

Safe water would be the animals' most important need. If you had no stored feed during an emergency, animals could live for a few days on water alone.

Water from a covered or deep well, tank, cistern, or freely running spring would be safe for livestock. Water in an open pond could be contaminated. Such water should not be used until you were told it was safe.

Remember, if you were asked to shelter animals or use protected feed and water, it would be important to take care of dairy animals first. You might also have to put dairy animals on stored feeds for a longer time. This is because dairy animals that eat contaminated food could pass the radioactive material to people through their milk, which is sold in a short time. If you were told to evacuate, you should try to milk dairy animals before leaving.

Actions After an Emergency

Personal Safety When Entering the Restricted Area
If you had evacuated, you might want to return to your farm during the emergency. State officials would tell you how to enter the restricted area. You would go to a field office, where you would get a special pass and a dosimeter. A dosimeter is a small device for measuring radiation exposure. You would be checked in and out of the area by state emergency workers. If your total radiation dose reached a certain level, you would not be allowed to go into the restricted area. If necessary, someone else could go into the area to care for your animals.

Farm Products
State officials would check milk, water, and food to see if they were safe to sell. Do not destroy any food products unless you are told to do so by the state Department of Agriculture, Markets & Food.

Here are some of the things you might be told to do after an emergency. Remember, state officials would tell you exactly which, if any, of these steps to take.

Milk Milk from dairy animals that have been given shelter and protected feed and water should be safe. If milk were contaminated, food processors could be told to hold it for a period of time to allow radiation to decay. Milk could be frozen, concentrated, made into cheese, or dehydrated.

Meat Livestock exposed to external contamination could be used for food if washed and checked by state officials before slaughtering. Radioactive materials could be washed off animals' skin with soap and water. In

handling animals, you should wear protective clothing, such as that used in working with pesticides. This would keep you from contaminating yourself. Meat animals with internal contamination could not be slaughtered until you were told by state officials that it was safe to do so.

Grain In many cases, it is several months from the time grains are harvested until they are eaten. This time lapse would probably make the grain safe to sell. If other steps were needed, they would include milling and polishing.

Fruits and vegetables The time between harvest and market also helps make commercially grown vegetables and fruits safe. Skins and outer leaves of green vegetables could be removed and the rest washed. Potatoes, root crops, peas, melons, and beans would require normal cleaning.

Fruits ripe at the time of an emergency could be lost due to contamination. Fruits that do not have to be picked at once could be saved and picked after the radiation decayed.

Canning, freezing, or other storage of fruits or vegetables also would allow decay of some radioactive particles.

The state Department of Agriculture, Markets & Food and the Office of Community and Public Health would determine when it was safe to harvest and sell your fruits and vegetables.

Buildings and Equipment

Monitoring by the state Department of Agriculture, Markets & Food and the Office of Community and Public Health would determine whether farm, food processing, or distributing buildings or equipment were contaminated. If so, you would be told what to do.

For instance, you might be told to wash your buildings and/or equipment with soap and water. Cleaning does not destroy radioactivity. However, cleaning is useful in moving radioactive materials to a place where their effects would be less harmful. You should wear protective clothing during decontamination activities.

The Soil

The state Department of Agriculture, Markets & Food and the Office of Community and Public Health would also take soil samples to see if any precautions were necessary. You might have to keep land fallow for a period of time. After that, land probably could be returned to normal use.

It is unlikely that there would be any need for special soil treatments. In most cases, the radioactive materials naturally decay in a brief time.

County Agricultural Extension Service agents would guide you in using your land following an emergency.

Insurance
If you suffered proven economic loss (for example, dairy cows going dry because they were not milked) due to a nuclear accident, you would be paid for that loss. Nuclear power plants carry insurance. This insurance covers personal injury and damage to property, including animals and crops.

Who Might Have to Take Action

There are response plans for two areas around Seabrook Station and Vermont Yankee: the areas within about 10 miles from the plants and the area within 50 miles.

Planning for the 10-mile areas includes a notification system for telling the general public of an emergency and what personal protective steps should be taken, such as sheltering or leaving the area. Information about these plans is sent each year to people living in the 10-mile areas.

The plans for the 50-mile areas deal with keeping the food chain safe from radioactivity. People more than 10 miles from Seabrook Station or Vermont Yankee should not need to take shelter or leave the area. However, farmers, food processors and distributors might need to take steps to keep food, water and milk safe.

If there were an emergency at Seabrook Station or Vermont Yankee, what you would do depends on where your farm or business is located and the kind of emergency.

Food and Personal Safety
10-mile zone People within 10 miles of Seabrook Station or Vermont Yankee might be told to stay indoors or leave the area. For farmers, food processors and distributors, this order could come before you had finished getting your farm or business ready for the emergency. Of course, your own safety and that of your family and workers would come first. However, planning *now* would help you act quickly to protect both your family *and* your farm or business in a real emergency.

50-mile zone People more than 10 miles but less than 50 miles from the plant should not have to take shelter or leave the area. However, farmers, food processors and distributors might need to protect farm animals, crops or food products to keep the food chain safe.

Remember, in an emergency, follow instructions from local, state and federal officials given to you in person, over EAS radio stations and through local news media.

Why Protective Measures May Be Needed

If there were an accident at Seabrook Station or Vermont Yankee, radioactive gases and particles could be released into the air. As the wind carried the radioactive materials, they would mix with the air. Particles would fall to earth and different distances, contaminating people, animals, crops, buildings or soil. Touching, breathing or eating these materials is harmful to people. It is unlikely that livestock would be hurt by contamination. But, if animals eat or drink contaminated food or water, this contamination could be passed on to people in meat or milk. This is why you need to protect meat and dairy animals as well as food products themselves.
Radiation becomes weaker away from the source of the accident, just as a puff of smoke grows fainter as it is blown away from a chimney. This is one reason why people outside the 50-mile zone would probably not need

to do anything to protect the food chain. Radioactivity also gets weaker with time, because radioactive materials decay at known rates. In an emergency, how far radioactive materials would go and how long they could be a danger would depend on the kind of accident and the weather.

The chief means of protection from exposure to radioactivity are:

- Sheltering (going in a building).
- Going farther away from the radioactivity.
- Reducing the time of exposure.

Based on these principles, the U.S. Department of Agriculture recommends two kinds of actions for emergencies which could expose food or milk to radiation:

Preventive actions by farmers, food processors and distributors to avoid or reduce contamination of food. Such steps include putting animals in barns or crops in storage.

Emergency actions by public officials to keep contaminated food from being sold or eaten. Such actions include stopping harvests or destroying milk.

You Can Help

Ongoing testing of soil, water, milk and crops is an important part of the overall emergency reponse program. Samples are taken periodically to determine normal levels of radioactivity. This information would be compared with data obtained during an emergency.

You might be asked to allow such sampling or testing on your property. Your cooperation will be appreciated.

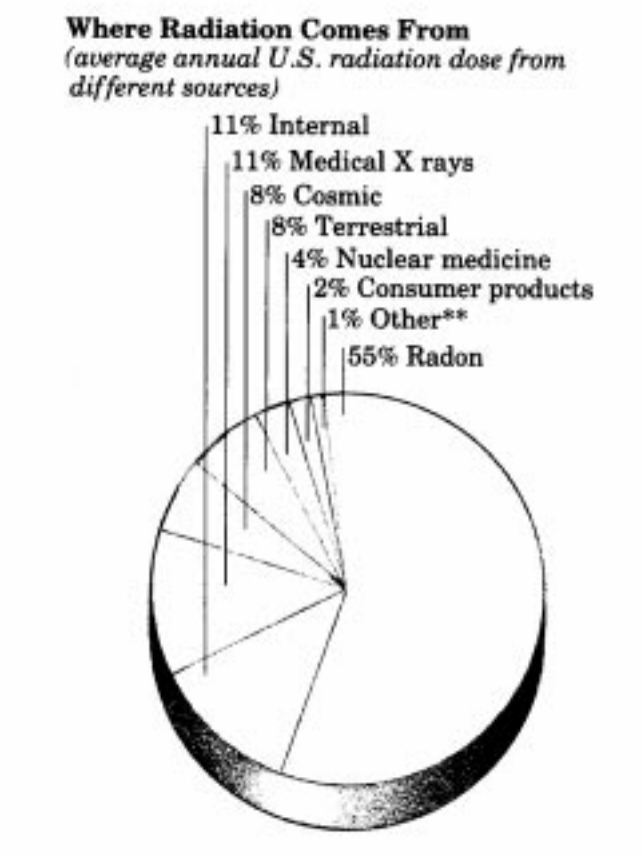
About Radiation

Radiation is a form of energy that is all around us. Radar, radio waves, microwaves, ultraviolet (sun) rays and x-rays are common forms of radiation. Some radiation is energy released from radioactive matter. Radioactive matter is present in the fuel in nuclear power plants.

Most radiation comes from natural sources. This is called background radiation. Rocks, water, the sun and objects in space give off radiation. The ground we walk on, the buildings we live in, and nearly everything we touch contains some radioactive matter. The food we eat and the air we breathe give off radiation. Even our bodies are mildly radioactive.

Some radiation also comes from manmade sources, like medical x-rays, some kinds of smoke detectors, and nuclear and coal-fired power plants.

The chart on page 11 shows the sources for radiation received by the general public in one year, and where it comes from. You can see that normal operation of a nuclear power plant adds very little to how much radiation we received.



One kind of radiation can cause changes in the atoms that make up the human body. This class includes ultra-violet rays, x-rays and radiation from radioactive matter. As with other kinds of radiation, care must be taken to protect people.

The amount of radiation that a person gets is measured in “millirem.” Very high levels of radiation – greater than 100,000 millirem – may cause observable health problems. Extremely high levels – several hundred thousand millirem – can cause serious illness or death. Most evidence shows that radiation doses of 25,000 to 50,000 millirem do not cause observable health problems. However, they can cause temporary changes in the blood. Also, they can possibly increase the chance of health problems later in life. To be extra careful, officials would recommend emergency actions if exposure to much lower levels of radiation – 1,000 millirem – were possible. In addition, precautionary actions could be recommended even if such levels were expected.

About Safety at Seabrook Station and Vermont Yankee

Seabrook Station and Vermont Yankee use nuclear fuel instead of coal, oil or natural gas to make electricity. There are over 100 nuclear power plants now operating in the United States. In New England, we get about 30 percent of our electricity from nuclear energy.

Radiation exposure levels from commercial nuclear power plants in the U.S. are constantly measured. These measurements have always shown radiation exposure levels near all plants to be well within safe limits. This was true even during the accident at Three Mile Island in Pennsylvania in 1979.

The chance of an accident happening at a U.S. nuclear power plant is very low. Even if there were an accident, it is impossible for a nuclear plant to explode like an atom bomb. A power plant does not contain nearly enough of a special kind of uranium, U-235, which is needed to make atomic bombs.

In addition, U.S. nuclear power plants have a series of barriers to keep radiation inside the plant in case of an emergency. The nuclear fuel is in the form of pellets the size of pencil erasers. The pellets are put into long tubes. The metal tubes are bundled together. The bundles are placed in water inside the reactor vessel, which is steel eight inches thick and lined with stainless steel. The reactor vessel is inside the containment building.